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<u>L13</u>	l1 and l12	0	<u>L13</u>
<u>L12</u>	5893075.pn.	2	<u>L12</u>
<u>L11</u>	l1 and L10	0	<u>L11</u>
<u>L10</u>	6151601.pn.	2	<u>L10</u>
<u>L9</u>	l1 and L8	0	<u>L9</u>
<u>L8</u>	6167405.pn.	2	<u>L8</u>
<u>L7</u>	l1 and L6	2	<u>L7</u>
<u>L6</u>	6212524.pn.	2	<u>L6</u>
<u>L5</u>	"reverse star schema".ti.ab.	37	<u>L5</u>
<u>L4</u>	"reverse star schema".ti.ab.clm.	6530	<u>L4</u>
<u>L3</u>	l1 and L2	6	<u>L3</u>
<u>L2</u>	"chen, li-wen".in.	11	<u>L2</u>
<u>L1</u>	"star schema" and (datawarehouse or data with warehouse or data with mart)	72	<u>L1</u>

END OF SEARCH HISTORY

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L2: Entry 1 of 11

File: PGPB

Sep 26, 2002

PGPUB-DOCUMENT-NUMBER: 20020136204

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020136204 A1

TITLE: Method and system for routing network traffic based upon application information

PUBLICATION-DATE: September 26, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Chen, Li-wen	Cupertino	CA	US	
Hu, Ron-Chung	Palo Alto	CA	US	

US-CL-CURRENT: 370/352; 370/389[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#) | [Claims](#) | [KWMC](#) | [Draw. Desc](#) | [Image](#) 2. Document ID: US 20020116389 A1

L2: Entry 2 of 11

File: PGPB

Aug 22, 2002

PGPUB-DOCUMENT-NUMBER: 20020116389

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020116389 A1

TITLE: System and method for providing a data warehouse in accordance with a virtual schema

PUBLICATION-DATE: August 22, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Chen, Li-Wen	Cupertino	CA	US	
Ortiz, Juan J.	Hayward	CA	US	

US-CL-CURRENT: 707/103R[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#) | [Claims](#) | [KWMC](#) | [Draw. Desc](#) | [Image](#) 3. Document ID: US 20020059183 A1

L2: Entry 3 of 11

File: PGPB

May 16, 2002

PGPUB-DOCUMENT-NUMBER: 20020059183

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020059183 A1

TITLE: Method and system for managing event attributes

PUBLICATION-DATE: May 2002

INVENTOR-INFORMATION:

NAME <u>Chen, Li-Wen</u>	CITY Cupertino	STATE CA	COUNTRY US	RULE-47
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US-CL-CURRENT: 707/1; 705/8, 705/9, 707/104.1[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#) | [KMC](#) | [Draw Desc](#) | [Image](#) 4. Document ID: US 20020038230 A1

L2: Entry 4 of 11

File: PGPB

Mar 28, 2002

PGPUB-DOCUMENT-NUMBER: 20020038230

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020038230 A1

TITLE: User interface and method for analyzing customer behavior based upon event attributes

PUBLICATION-DATE: March 28, 2002

INVENTOR-INFORMATION:

NAME <u>Chen, Li-Wen</u>	CITY Cupertino	STATE CA	COUNTRY US	RULE-47
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US-CL-CURRENT: 705/7[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#) | [KMC](#) | [Draw Desc](#) | [Image](#) 5. Document ID: US 6411961 B1

L2: Entry 5 of 11

File: USPT

Jun 25, 2002

US-PAT-NO: 6411961

DOCUMENT-IDENTIFIER: US 6411961 B1

TITLE: Apparatus for providing a reverse star schema data model

DATE-ISSUED: June 25, 2002

INVENTOR-INFORMATION:

NAME <u>Chen, Li-Wen</u>	CITY Cupertino	STATE CA	ZIP CODE	COUNTRY
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US-CL-CURRENT: 707/102; 705/10, 707/104.1[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#) | [KMC](#) | [Draw Desc](#) | [Image](#) 6. Document ID: US 6377934 B1

L2: Entry 6 of 11

File: USPT

Apr 23, 2002

US-PAT-NO: 6377934

DOCUMENT-IDENTIFIER: US 6377934 B1

TITLE: Method for providing a reverse star schema data model

DATE-ISSUED: April 23, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
<u>Chen; Li-Wen</u>	Cupertino	CA		
<u>Ortiz; Juan J.</u>	Hayward	CA		

US-CL-CURRENT: 705/10; 707/102, 707/104.1
[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#)
[KMC](#) | [Drawn Desc](#) | [Image](#)
 7. Document ID: US 6363353 B1

L2: Entry 7 of 11

File: USPT

Mar 26, 2002

US-PAT-NO: 6363353

DOCUMENT-IDENTIFIER: US 6363353 B1

TITLE: System for providing a reverse star schema data model

DATE-ISSUED: March 26, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
<u>Chen; Li-Wen</u>	Cupertino	CA		

US-CL-CURRENT: 705/10; 707/102, 707/104.1
[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#)
[KMC](#) | [Drawn Desc](#) | [Image](#)
 8. Document ID: JP 08328838 A

L2: Entry 8 of 11

File: JPAB

Dec 13, 1996

PUB-NR: JP408328838A

DOCUMENT-IDENTIFIER: JP 08328838 A

TITLE: SYSTEM AND METHOD FOR DISCRIMINATING TYPE OF PLURALITY OF OBJECT INTERFACES IN DISTRIBUTED OBJECT ENVIRONMENT

PUBN-DATE: December 13, 1996

INVENTOR-INFORMATION:

NAME	COUNTRY
KESSLER, PETER B	
LIM, SWEE BOON	
VANDERBILT, PETER	
POWELL, MICHAEL L	
CHEN, LI-WEN	
HARE, DWIGHT F	
SNYDER, ALAN	

INT-CL (IPC): G06 F 9/06; G06 F 9/44
[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#)
[KMC](#) | [Drawn Desc](#) | [Clip Img](#) | [Image](#)
 9. Document ID: WO 2082209 A2

L2: Entry 9 of 11

File: EPAB

Oct 17, 2002

PUB-NO: WO002082209A2
DOCUMENT-IDENTIFIER: WO 2082209 A2
TITLE: METHOD AND SYSTEM FOR DECISION SUPPORT ANALYSIS

PUBN-DATE: October 17, 2002

INVENTOR-INFORMATION:

NAME	COUNTRY
CHEN, LI-WEN	
SHENG, ROUNDIA	

INT-CL (IPC): G06 F 0/

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#) | [KWD](#) | [Draw Desc](#) | [Image](#)

10. Document ID: WO 2063816 A2

L2: Entry 10 of 11

File: EPAB

Aug 15, 2002

PUB-NO: WO002063816A2
DOCUMENT-IDENTIFIER: WO 2063816 A2
TITLE: METHOD AND SYSTEM FOR ROUTING NETWORK TRAFFIC BASED UPON APPLICATION INFORMATION

PUBN-DATE: August 15, 2002

INVENTOR-INFORMATION:

NAME	COUNTRY
CHEN, LI-WEN	

INT-CL (IPC): H04 L 0/

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#) | [KWD](#) | [Draw Desc](#) | [Image](#)

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Terms	Documents
"chen, li-wen".in.	11

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L3: Entry 4 of 6

File: USPT

Jun 25, 2002

US-PAT-NO: 6411961

DOCUMENT-IDENTIFIER: US 6411961 B1

TITLE: Apparatus for providing a reverse star schema data model

DATE-ISSUED: June 25, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
<u>Chen; Li-Wen</u>	Cupertino	CA		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
MetaEdge Corporation	Sunnyvale	CA			02

APPL-NO: 09/ 306650 [PALM]

DATE FILED: May 6, 1999

PARENT-CASE:

CROSS-REFERENCES TO RELATED APPLICATIONS This application claims priority from the following U.S. Provisional Patent Application, the disclosure of which, including all appendices and all attached documents, is incorporated by reference in its entirety for all purposes: U.S. Provisional Patent Application Ser. No. 60/116,086, Li-Wen Chen entitled, "METHOD AND APPARATUS FOR PERFORMING CUSTOMER DATA ANALYSIS OF A COMPUTER DATABASE USING REVERSE STAR SCHEMA DATA MODEL," filed Jan. 15, 1999. The following commonly-owned co-pending applications, including this one, are being filed concurrently and the others are hereby incorporated by reference in their entirety for all purposes: 1. U.S. patent application Ser. No. 09/306,677, Li-Wen Chen and Juan Oritz entitled, "METHOD FOR PROVIDING A REVERSE STAR SCHEMA DATA MODEL"; 2. U.S. patent application Ser. No. 09/306,650, Li-Wen Chen entitled, "APPARATUS FOR PROVIDING A REVERSE STAR SCHEMA DATA MODEL"; and 3. U.S. patent application Ser. No. 09/306,693, Li-Wen Chen entitled, "SYSTEM FOR PROVIDING A REVERSE STAR SCHEMA DATA MODEL".

INT-CL: [07] G06 F 17/60

US-CL-ISSUED: 707/102; 707/104.1, 705/10

US-CL-CURRENT: 707/102; 705/10, 707/104.1

FIELD-OF-SEARCH: 705/10, 707/3, 707/5, 707/10, 707/103, 707/201, 707/100-104, 717/1

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

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PAT-NO	ISSUE DATE	PATENTEE-NAME	US-CL
<input type="checkbox"/> <u>4972504</u>	November 1990	Daniel, Jr. et al.	
<input type="checkbox"/> <u>5036314</u>	July 1991	Barillari et al.	
<input type="checkbox"/> <u>5168445</u>	December 1992	Kawashima et al.	
<input type="checkbox"/> <u>5191522</u>	March 1993	Bosco et al.	364/401
<input type="checkbox"/> <u>5299115</u>	March 1994	Fields et al.	
<input type="checkbox"/> <u>5615109</u>	March 1997	Eder	
<input type="checkbox"/> <u>5644723</u>	July 1997	Deaton et al.	
<input type="checkbox"/> <u>5715450</u>	February 1998	Ambrose et al.	
<input type="checkbox"/> <u>5721903</u>	February 1998	Anand et al.	395/605
<input type="checkbox"/> <u>5758355</u>	May 1998	Buchanan	
<input type="checkbox"/> <u>5787437</u>	July 1998	Potterveld et al.	707/103
<input type="checkbox"/> <u>5794246</u>	August 1998	Sankaran et al.	
<input type="checkbox"/> <u>5854746</u>	December 1998	Yamamoto et al.	
<input type="checkbox"/> <u>5873096</u>	February 1999	Lim et al.	
<input type="checkbox"/> <u>5893075</u>	April 1999	Plainfield et al.	
<input type="checkbox"/> <u>6151601</u>	November 2000	Papierniak et al.	707/10
<input type="checkbox"/> <u>6167405</u>	December 2000	Rosensteel, Jr. et al.	707/102
<input type="checkbox"/> <u>6212524</u>	April 2001	Weissman et al.	707/101

FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
WO-2000057311	February 2001	WO	

OTHER PUBLICATIONS

Gopalkrishnan et al. Star/Snow-flake Schema Driven Object-Relationship Data Warehouse Design and Query Processing Strategy. star schema conversion to object-relational warehouse.*
 Brooks. Mark of the data marts. DBMS, Mar. 1997, v10, n3, pp 55(4).*
 Krippendorf et al. The translation of star schema into entity relationship diagrams. Database and Expert Systems Applications, Sep. 1997, pp. 390-395.*
 Greene. Oracle8 Server Unleashed. Sams, 1998, chapter 30 "Data Warehouses".*
 Brachman et al. Mining Business Databases. Communications of the ACM, Nov. 1996, pp. 42-48.*
 Firestone. Object-oriented Data Warehousing. Executive Information Systems, Inc. White Paper No. 5, Aug. 7, 1997, downloaded Jul. 25, 2001 <http://dkms.com>.

ART-UNIT: 2163

PRIMARY-EXAMINER: Hafiz; Tariq R.

ASSISTANT-EXAMINER: Robertson; D.

ABSTRACT:

According to the invention, techniques for organizing information from systems in a data warehousing environment are provided. In a particular embodiment, the invention provides an apparatus for analyzing data in at least one data source of an enterprise. The apparatus can include a meta model for an enterprise. The enterprise is typically a business activity, but can also be other loci of human activity. A data schema derived from the meta model can also be part of the apparatus. The apparatus can also include a database organized according to the data schema. The apparatus can translate data from a variety of sources to the data schema. The apparatus can incorporate data into the database and perform a variety of analyses on the data in the database.

10 Claims, 16 Drawing Figures